

CLAIMS:

1. A method for packing tubes (T) which arrive continuously from a production line, and by way of a grouping unit (1) are  
5 arranged in groups of tubes lying next to one another with a settable unit number of tubes which corresponds to a layer of tubes (T) to be deposited in a box (B), wherein the first group of tubes (T) are pushed on a first uppermost row of mandrels (25) which are arranged on a plate-like mandrel support (20)  
10 with the dimensions of the clear opening of the box (B) to be filled, whereupon the mandrel support is lifted (III) and is traveled away from the grouping unit (IV), whereupon a next group of tubes (T) is formed, whereupon the mandrel support (20) is again moved to the grouping unit (1), wherein the tubes which  
15 are already pushed on a first mandrel row are lowered (II) by way of the mandrel support (20) to such an extent, that the first row of tubes lies on the newly formed group of tubes, and then this second group of tubes is pushed onto a second mandrel row, and this procedure is repeated, until all mandrels (25) of  
20 the mandrel support (20) are occupied with tubes, whereupon the mandrel support is pivoted (V) and moves into (VI) an open box (B) and thereupon all tubes are pushed off from all mandrels simultaneously into the box, whereupon the mandrel support travels back to its original position and is ready for the next  
25 loading.

2. A method according to claim 1, wherein one uses two mandrel supports (20) and these are alternately loaded with tubes, wherein in the time in which a loaded mandrel support  
30 dispenses the tubes into a box (B), the second mandrel support is loaded with tubes.

3. A method according to claim 1, wherein the mandrels of two adjacent rows of mandrels are arranged on a mandrel support in

each case offset by half the diameter of the tubes, and the grouping unit (1) stops in front of the mandrel supports (20) in each case offset by half the distance of the tube diameter in an alternating manner, and the tubes (T) are pushed onto the  
5 mandrels (25) of the mandrel support.

4. A method according to claim 1, wherein a bag-like film lining (5) is inserted into the boxes to be filled, and the edges of this lining are put over the box walls, wherein the  
10 mandrel support with the tubes, on insertion of the tubes, pushes the bag-like film lining (5) onto the box base over the whole periphery.

5. A device for transferring tubes (T) which arrive  
15 continuously from a production line and by way of a grouping unit may be formed into groups of tubes lying next to one another with a settable number, and are filled into a box (B) from the grouping unit (1), wherein the device comprises a mandrel support (20) on which mandrels (25) are arranged, which  
20 correspond to the inner dimensions of the tubes to be packed in the box therein, wherein the mandrel support (20) is essentially a plate (21) with mandrels (25) arranged thereon, in the arrangement in which the tubes are to be deposited in a box, and wherein the plate (21) corresponds to the dimensions of the  
25 clear span of the box (B) to be filled, and wherein a pull-off element is present, by way of which all tubes (T) may be simultaneously pushed from the mandrels (25).

6. A device according to claim 1, wherein the mandrels (25)  
30 have the shape of pins which are rectangular in cross section and which are fastened on the plate (21) and whose free ends (251) converge conically in a rounded manner into a blunt tip.

7. A device according to claim 6, wherein the mandrels in the region with a rectangular cross section are rounded on the longitudinal edges (252).

5 8. A device according to claim 7, wherein the mandrels (25) in the diagonal dimension are designed reducing from the plane end (250) on the plate side, to the free ends (251).

9. A device according to claim 5, wherein the mandrels (25)  
10 are of plastic and comprise an axial longitudinal bore (255, 256) whose diameter (255) at the plane end (250) on the fastening side is smaller and serves for accommodating a screw threaded pin, whilst the diameter (256) from the free end (251) is designed larger and for receiving a nut (257) fitting onto  
15 the screw threaded pin.

10. A device according to claim 5, wherein the pull-off element is a grate of flat ejection rods (26) which running in a parallel manner are in each case arranged between two adjacent  
20 rows of mandrels (25), and wherein the grate may be moved relative to the plate of the mandrel support (20).

11. A device according to claim 5, wherein distancers (28) are arranged between in each case two adjacent ejection rods (26)  
25 and are held laterally of the plate (21) on lateral carrier bars (27), wherein the carrier bars (27) rest on a chassis plate (30), whilst the plate (21) is displaceable relative to the chassis plate (30), by which means all tubes (T) may be pushed from the mandrels (25) simultaneously.

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